THE CITY OF SAN DIEGO

MINIMUM CONSTRUCTION REQUIREMENTS FOR A

Single - Dwelling Unit

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INFORMATION BULLETIN
130
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The construction of a single-dwelling unit residence is regulated by the building laws of the City of San Diego. Regulations involve land usage and coverage, location of buildings on lots, parking, grading, utilities service and connections and design of structural, electrical and mechanical elements. The following is a summary of some of the requirements for a detached single family residence from the 2001 Editions of the California Building Code, California Plumbing Code and California Mechanical Code, the 2001 California Electrical Code and the current edition of Title 24, Part 6 of the California Code of Regulations.

For information on the preparation and submittal of plans, see the Land Development Manual, Project Submittal Requirements, Section 2.

I. LOCATION ON PROPERTY

A. Exterior walls of single-dwelling units and duplexes facing a property line must be located beyond 3 feet (914mm) of the property lines or be of one-hour fire resistive construction, except when adjoining a street or public alley. No openings are permitted in such walls of fire-resistive construction and parapets may be required per Section 709.4 of the CBC. Section XIV, Item C of this information bulletin gives examples of possible interior and exterior wall protection. See also Table No. 7-B of the CBC.

B. Other building setback requirements are regulated by the zoning laws of the City. For specific information on zoning regulations for your lot, call the Development Services Center at (619) 446-5000 for an appointment.

II. ROOM DIMENSIONS

A. Detached, single-dwelling unit residences must have one habitable room with a floor area of at least 120 square feet (11.2 square meters). A habitable room is defined as a space in a structure for living, sleeping, eating or cooking. Bathrooms, toilet compartments, closets, halls, storage or utility space, and similar areas are not considered habitable space.

B. Other habitable rooms, except kitchens, must have at least 70 square feet (6.5 square meters) of floor area.

C. No habitable room, other than a kitchen, can be less than 7 feet (2134 mm) in any dimension.

D. The kitchen area must have at least 30 inches (762 mm) of clear working space in front of the sink, cooking appliance and refrigeration facilities.

Documents referenced in this Information Bulletin

- **Land Development Manual, Project Submittal Requirements, Section 2**
- **2001 California Building Code**
- **2001 California Plumbing Code**
- **2001 California Mechanical Code**
- **2001 California Electrical Code**
- **California Code of Regulations, Title 24, Part 6**
- **Chapter 14, Article 2, Division 1, of the San Diego Municipal Code, 2000 Edition**
- **California Regional Water Quality Control Board, State Order No. R9-2002-0001**
- **Standard Specifications for Public Works Construction, 2003 Edition**
- **Storm Water Requirements Applicability Checklist (DS-560)**

III. CEILING HEIGHTS

A. Ceilings can be categorized as follows:

1. Level ceilings are ceilings occurring at one height only throughout a room.

2. Sloped ceilings are ceilings occurring at one or more rates of vertical rise for a given horizontal run.

3. Clipped ceilings are a combination of a level ceiling and sloped ceilings.

4. Furred ceilings are level ceilings occurring at more than one height.

B. Habitable rooms must have a level ceiling height of at least 7 feet 6 inches (2286 mm) except as outlined below.

1. Level ceiling height for exposed beam ceiling members is dependent on member spacing.

   a. Exposed beam ceiling members spaced at least 48 inches (1219 mm) on center may project into the required ceiling height provided the bottom of such members is at least 7 feet (2134 mm) above the floor. The required ceiling height must be measured from the underside of the deck supported by these members.

Figure 1: Minimum Room Dimensions

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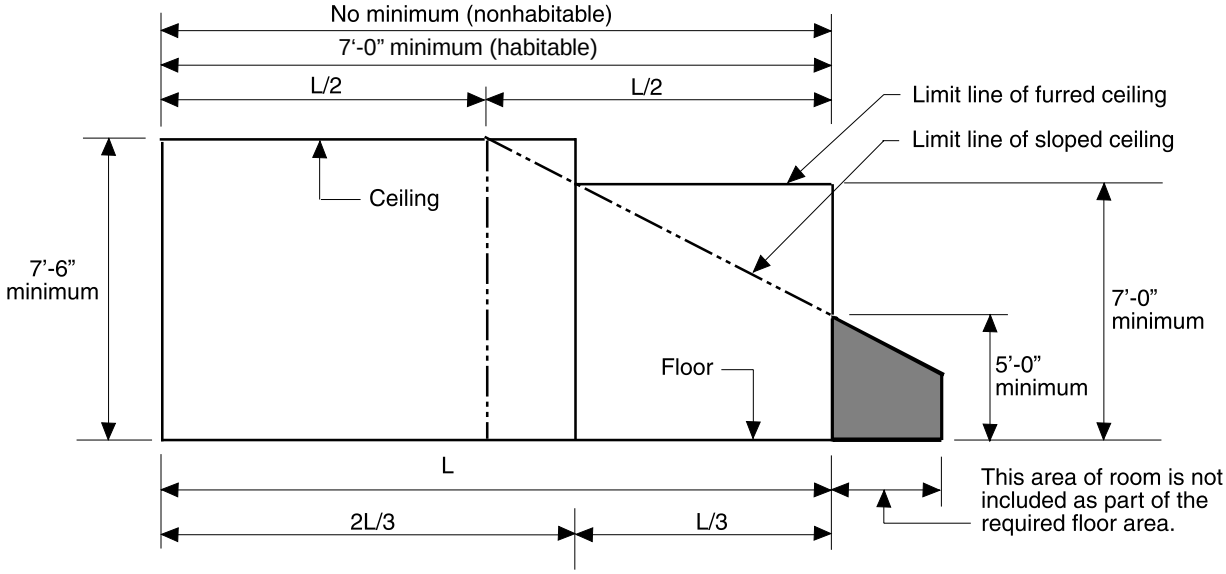

b. Where exposed beam ceiling members are spaced less than 48 inches (1219 mm) on center the minimum ceiling height is to be measured from the bottom of the members.

2. Sloped or clipped ceilings require 7 feet 6 inches (2286 mm) minimum height in at least one-half of the entire floor area of the habitable room; 7 feet (2134 mm) for a nonhabitable room. Any part of a room having a ceiling height of less than 5 feet (1524 mm) will not be considered to contribute to the required floor area of the room. See Figure 1.

3. Furred ceilings require 7 feet 6 inches (2286 mm) minimum height in at least two-thirds of the entire floor area of the habitable room (7 feet [2134 mm] for a nonhabitable room). It is acceptable, however, to furr the ceiling down to a point at which it will not extend below any complying sloped ceiling line. The height of a furred ceiling shall not be less than 7 feet (2134 mm) above the floor as shown in Figure 1.

C. Nonhabitable rooms such as kitchens, halls, bathrooms and toilet compartments must have a level ceiling height of at least 7 feet (2134 mm) measured to the lowest projection from the ceiling.

IV. MEANS OF EGRESS (EXITS)

A. Every single-dwelling unit residence must have at least one door with minimum dimension of 3 feet (914 mm) wide by 6 feet 8 inches (2032 mm) high which opens to a clear width of not less than 32 inches (813 mm).

B. Floors above the second story must have access to two means of egress; however, if the total floor area of the third floor, including balconies and/or occupied roofs, does not exceed 500 square feet (46.5 square meters) only one exit is required.

C. Every sleeping room must have at least one window or door to the outside of the building for emergency escape or rescue. These units must be operable from the inside without the use of separate tools.

1. Where windows are provided, they must have a sill height of not more than 44 inches (1118 mm) above the floor.

2. Windows must have a net clear openable area of at least 5.7 square feet (0.53 square meters), with a minimum net clear openable height of 24 inches (610 mm) and openable width of 20 inches (508 mm).

3. Where windows are below adjacent grade, a window well shall be provided. The window well shall have a minimum 9 sq. ft. (0.84 sq. meters) of accessible horizontal opening, with a minimum 3 foot (914 mm) dimension in any direction. Window wells with a vertical depth of more than 44 inches (1118 mm) shall be provided with a permanent affixed ladder or stair which shall not encroach more than 6 inches (13 mm) into the required minimum dimension.

4. A sleeping room may not exit through a garage.

5. Emergency escape or rescue windows or doors shall open directly into a public street, public alley, yard or exit court (CBC Section 310.4).

6. Bars, grills, grates or similar devices may be installed on emergency escape or rescue windows, doors or window wells, provided:

   a. Devices are equipped with approved release mechanisms which are openable from the inside without the use of a key or special knowledge or effort; and

   b. The building is equipped with smoke detectors installed in accordance with CBC Section 310.9.

   Note: The City of San Diego requires release mechanisms to be tested and listed by a recognized agency.

V. LIGHT AND VENTILATION

A. Each habitable room, except kitchens, must be provided with natural light by means of windows or skylights. Such openings must have an area of at least one tenth of the floor area of each room, with a minimum of 10 square feet (0.93 square meters). Plastic skylights must be tested and listed by a recognized agency. Glazed skylights must be designed and installed as specified in Section 2409 of the CBC.

B. Each habitable room must have natural ventilation through openable exterior openings except as outlined in Section V, Item C below. The minimum area of such an opening must be the greater of one twentieth of the floor area of the room, or 5 square feet (0.46 square meters). Bathrooms, laundry rooms and similar rooms must have natural ventilation by means of openable exterior openings except as outlined in Section V Item C below. The minimum area must be the greater of one twentieth of the floor area of the room or $1^1/_2$ square feet (0.14 square meters).

C. In lieu of required exterior openings for natural ventilation, a mechanical ventilating system may be used. One fifth of the air supply must be taken from the outside. The system must be capable of providing two air changes per hour. In bathrooms, laundry rooms and similar rooms, a mechanical ventilation system must be connected directly to the outside and must be capable of providing five air changes per hour with the point of exhaust air discharge a minimum of three feet from any building opening. In bathrooms with only a water closet and/or lavatory, an approved mechanical recirculating fan may be used.

D. In determining light and ventilation requirements, any room may be considered as part of an adjoining room when one half of the area of the common wall between the two rooms is open, unobstructed and has an area of at least one tenth of the floor area of the interior room or 25 square feet (0.23 square meters), whichever is greater.

E. General light in kitchens and bathrooms must provide 40 lumens per watt or more (e.g., fluorescent).

VI. ENERGY CONSERVATION

All new residential construction and additions are required to comply with California Energy Efficiency Standards for Low-Rise Residential Buildings contained in Title 24, Part 6 of the California Code of Regulations. A number of compliance methods are described in a Residential Manual available from the California Energy Commission, phone 1-800-772-3300. All compliance methods must meet the following minimum requirements:

A. Insulation must be installed so as to provide a continuous heat loss barrier for ceilings, walls and floors. Details on plans shall indicate the required "R" factor, typically R-30 for ceilings in Climate Zone 7 and in Climate Zone 10. Raised floors R-19 and all exterior walls must have a minimum of R-13 insulation. Upon completion of the installation, an insulation inspection must be made by Development Services before the insulation is covered up.

B. All manufactured doors and windows opening to the exterior, or to unconditioned areas such as basements or garages, must be certified as meeting air leakage standards. Site-built doors and windows must be fully weather-stripped, gasketed or otherwise treated to limit loss of heat from occupied areas.

C. Manufactured fenestration (glazing) products must be labeled with certified u-value and infiltration certification. The rough opening and u-value of all windows and doors with glass must also be noted on the plans.

D. General lighting in kitchens and rooms with water closets must be 40 lumens/watt or greater.

VII. SAFETY GLASS

A. Individual glazed areas in hazardous locations must be of safety glazing material passing the test requirements listed in CBC Standard No. 24-2, Part 1. More information on safety glazing requirements can be found in Building Newsletter (BNL) 24-1.

B. The following are considered hazardous locations:

1. Glazing in doors except jalousies.

2. Glazing in fixed and sliding panels of sliding door assemblies and swinging doors other than wardrobe doors.

3. Glazing in storm doors.

4. Glazing in all unframed swinging doors.

5. Glazing in doors and enclosures for hot tubs, saunas, steam rooms, bathtubs and showers.

6. Glazing, operable or inoperable, adjacent to a door and within a 24-inch (610 mm) arc of either vertical edge of the door in a closed position and where the bottom edge is less than 60 inches (1525 mm) above the walking surface.

7. Glazing in fixed or operable panels other than those covered above which have a glazed area in excess of 9 square feet (0.84 m2), an exposed bottom edge less than 18 inches (457 mm) above the floor, an exposed top edge greater than 36 inches (914 mm) above the floor *and* a walking surface within 36 inches (914 mm) horizontally.

8. Glazing in railings.

9. Glazing in swimming pool and spa barriers when located within 5 feet (1525 mm) of a pool or spa.

10. Glazing in wall(s) enclosing stairway landings or within 5 feet (1525 mm) of top or bottom of stairways where the bottom edge is less than 60 inches (1525 mm) above the walking surface.

VIII. HEATING

A. Every dwelling unit must have a heater capable of maintaining a room temperature of 70°F at a point 3 feet (914 mm) above the floor in all habitable rooms (approximately 25 BTUs per square foot), per CBC Section 310.11. If electric heat is being installed, all the requirements of Title 24 for electric heat must be met. *Note:* Electric heat requires energy calculations. See Section 151(b) of the Building Energy Efficiency Standards (California Energy Commission Publication) for restrictions and documentation requirements. See BNL 3-10 for fan penetration from garage to residence.

B. Solid fuel burning fireplaces or stoves will be an acceptable source of heat for family room, den, or living room additions only. Gas or electric decorative fireplaces or stoves with gas logs will not be acceptable as a source of required heating in any living units.

IX. FIREPLACES

A. All factory-built fireplaces must be tested and listed by a recognized agency. Masonry and factory-built fireplaces must have tight fitting, closeable metal or glass doors covering firebox openings. Combustion air-intake ducts are required (6 square inches [13 square millimeters] minimum) with tight fitting dampers. Tight-fitting flue dampers are also required. See BNL 31-3 for further information.

B. Combustible materials must not be placed within 2 inches (51 mm) of fireplace or chimney walls, or within 6 inches (152 mm) of fireplace openings. Combustible materials within 12 inches (305 mm) of the opening shall not project more than one- eighth of an inch (.3 mm) for each 1 inch (2 mm) clearance from such opening.

X. WATER HEATERS

A. Every dwelling unit must be supplied with hot water at a minimum temperature of 120°F.

B. A water heater enclosure may not open into a bedroom or bathroom.

C. If a water heater is located in a garage, the source of ignition must be kept at least 18 inches (457 mm) above the floor level, and the heater should be protected against damage from impact by vehicles.

D. Water heaters must be provided with automatic controls limiting water temperature to a maximum of 210°F.

E. A flue passing through the one-hour separation between a garage and a dwelling must be constructed of 26 gage galvanized sheet metal.

XI. SMOKE DETECTORS

A. Detectors in dwellings must be mounted on the ceiling or wall in all sleeping rooms and in hallways or areas leading to each sleeping room. When sleeping rooms are on an upper level, the detector must be at the ceiling of the upper level close to the stairs.

1. For multistory dwellings and/or dwellings with basements, an approved detector must be installed on each floor and in the basement.

2. In split level dwellings, an approved detector must be installed on the upper level. If the lower level contains a sleeping area, detectors must be installed on both levels.

B. When actuated, the detector must provide an audible alarm in all sleeping areas of the dwelling unit.

C. When the valuation of an addition or repair to a dwelling unit exceeds $1,000 or when one or more sleeping rooms are created, the entire building must be

provided with smoke detectors as required above. *Where repairs are only to the exterior of the dwelling, smoke detectors are not required.*

D. Detectors in new construction must be permanently wired in and have battery backup power. The detector must emit a signal when the batteries are low.

XII. STAIRWAYS

A. Stairways in a single-dwelling unit may be a minimum of 36 inches (914 mm) wide.

B. The vertical rise of every step may be a maximum of 8 inches (203 mm), a minimum of 4 inches (102 mm) and the horizontal run may be a minimum of 9 inches (229 mm). The tread run and riser height within any flight of stairs must have uniform dimensions, with an overall tolerance of $^3/_8$-inch (10 mm).

C. Stairways serving one dwelling unit may have handrails on one side only. Stairways open on one or both sides must have handrails on the open side or sides. Stairways having less than four risers need not have a handrail.

D. Handrails must be placed between 34 and 38 inches (864 and 965 mm) above the nosing of treads. The handgrip portion of handrails must be between $1^1/_4$ and 2 inches (32 and 51 mm) in cross-sectional dimension or the shape must provide an equivalent gripping surface. The handgrip portion of handrails must have a smooth surface with no sharp corners. Handrails projecting from a wall must have a space of at least $1^1/_2$ inches (38 mm) between the wall and the handrail. Handrails must extend 12 inches (305 mm) beyond the top and bottom risers and must be returned at their ends.

E. Open stair railings must have intermediate rails with an ornamental pattern such that a sphere 4 inches (102 mm) in diameter cannot pass through.

F. Minimum clearance above a stairway is 6 feet 8 inches (2032 mm), measured from the nosing of the treads.

G. Every landing must have a dimension measured in the direction of travel equal to the width of the stair. Such dimension need not exceed 36 inches (914 mm) in the direction of a straight run. There shall be no more than 12 feet (3658 mm) vertically between landings.

XIII. GUARDRAILS

A. All unenclosed floor and roof openings, open and glazed sides of stairways, landings and ramps, balconies or porches more than 30 inches (762 mm) above grade or floor below and occupied roofs must be protected by a minimum 36-inch-high (914 mm high) guardrail. This guardrail must be designed to resist a force of 20 pounds per linear foot applied horizontally at the top rail.

B. Open guardrails must have intermediate rails or an ornamental pattern such that a sphere 4 inches (102 mm) in diameter cannot pass through. Intermediate rails, panel fillers and their connections shall be capable of withstanding a load of 25 pounds per square foot (1.2 kN/m^2) applied horizontally at right angles over the entire tributary area, including openings and spaces between rails.

C. Glazing used as a guardrail must be supported so that it remains in place should one baluster panel fail. All glazing must be a minimum of $^1/_4$-inch (6 mm) thick and structural calculations must be provided. Permissible materials are:

1. Single fully tempered glass.

2. Laminated fully tempered glass.

3. Laminated heat-strengthened glass.

XIV. ROOFS

A. All roofs must be designed with a minimum slope of $^1/_4$-inch (3 mm) in 12 inches (305 mm) to assure drainage. See Building Newsletter (BNL) 15-2 and Information Bulletin 112 for allowable slope for various roofing materials. Unless roofs are sloped to drain over roof edges, roof drains must be installed at each low point. Where roof drains are required, overflow drains must be provided and connected to independent drain lines. See BNL 15-1 for more information.

B. All replacements, alterations, or repairs shall be with a Class “A” roofing assembly.

C. The entire roof shall be covered with a Class “A” roofing assembly where more than twenty-five percent of the total roof area is replaced, altered or repaired within any twelve month period. Wood roof coverings are not permitted on the new or existing building.

D. The entire roof shall be a Class “A” roofing assembly where a building addition is more than twenty-five percent of the original floor area of the building. Wood roof coverings are not permitted on the new or existing building.

E. Wood shake or wood shingles are not permitted, except as provided in State Historical Building Code Section 8-408 and Section 145.0202(c).

F. Class “A” roofing assemblies incorporating treated wood shake or wood shingle coverings are permitted for roof replacement, alteration, or repair projects

involving not more than 25% of the existing roof are over a 12 month period.

XV. GARAGES AND CARPORTS

A. The door between a dwelling and garage must be a $1^3/_8$-inch-thick (35 mm) minimum, solid-core wood door or a 20-minute fire-resistive assembly. The door must be self-closing and tight-fitting.

B. There may be no openings between a garage and a bedroom.

C. Materials approved for one-hour fire-resistive construction must be provided on the garage side of walls and ceilings between a dwelling and attached garage.

1. Approved wall construction on the garage side applied to 2x4s at 16 inches (406 mm) on center minimum may consist of one of the following:

   a. One layer of $^5/_8$-inch (16 mm) Type X gypsum wallboard (drywall);

   b. Two layers of $^1/_2$-inch (6 mm) gypsum wallboard;

   c. $^7/_8$-inch (22 mm) gypsum lath and plaster.

2. In lieu of one of the above interior materials, the following exterior wall protection may be used:

   a. $^7/_8$-inch (22 mm) stucco, or

   b. One layer of $^1/_2$-inch (6 mm) gypsum sheathing with $^3/_8$-inch (10 mm) exterior grade plywood covering.

3. Approved floor-ceiling construction on the garage side may consist of one layer of $^1/_2$-inch (6 mm) Type X gypsum wallboard applied to joists at 16 inches (406 mm) on center.

D. In addition, one-hour exterior wall protection must be provided on any garage wall that is within 3 feet (914 mm) of a property line. If a freestanding garage is located within 6 feet (1097 mm) of a dwelling, one-hour construction is required on both interior and exterior wall surfaces. Parapets may be required on exterior walls of fire resistive construction per Section 709.4 of the CBC when the area of the building is greater than 1,000 square feet (92.9 square meters).

E. A one-story carport, entirely open on two or more sides with no enclosed uses above, need not have a fire resistive occupancy separation between the carport and the dwelling.

XVI. PARKING SPACES

Parking is regulated by Chapter 14, Article 2,Division 5 of the Land Development Code.

A. When there are no obstructions the minimum size for a required standard parking space is 8 feet wide by 18 feet long.

B. The total number of parking spaces required will be determined by the zoning regulations for the individual site.

C. The maximum allowable slope for a parking space is 6 percent.

D. Parking spaces and drives must be paved with a minimum of 2 inches (51 mm) of asphalt concrete, $3^1/_2$ inches (89 mm) of portland cement concrete or the equivalent.

XVII. ELECTRICAL

Note: For specific questions about electrical installations, contact a combination inspector at (858)492-5070.

As used in this section, a “wall space” is considered a wall unbroken along the floor line by doorways, fireplaces or similar openings. Each wall space two or more feet wide is treated individually from other wall spaces within a room. A wall space can include two or more walls of a room (around corners) where unbroken at the floor line. The purpose of this requirement is to minimize the use of cords across doorways, fireplaces and similar openings.

The receptacle outlets required by this section are counted in addition to any that are part of a lighting fixture or appliance located within cabinets or cupboards, or located more than 5-1/2 feet (1676 mm) above the floor.

A. In kitchens, family rooms, dining rooms, breakfast rooms, living rooms, parlors, libraries, dens, sun rooms, bedrooms, recreation rooms or similar rooms, receptacle outlets must be installed so that no point along the floor line in any wall space is more than 6 feet (1829 mm), measured horizontally, from an outlet in that space. This includes any wall space 2 feet (610 mm) or more wide and the wall space occupied by fixed panels in exterior walls. The wall space afforded by fixed room dividers, such as freestanding bar-type counters, is included in the 6-foot (1828 mm) measurement.

B. In kitchen and dining areas, a receptacle must be installed at each counter space wider than 12 inches (305 mm). Counter-top spaces separated by range tops, refrigerators or sinks are considered separate counter-top spaces. Counter-top spaces shall be supplied with receptacles spaced every 4-feet (1219 mm)

on center, per NEC Section 210-52(c). Receptacles inaccessible because of the installation of stationary appliances cannot be included as these required outlets.

C. Receptacle outlets, as much as is practical, must be spaced at equal distances. Receptacles in floors are not counted as part of the required number unless located close to the wall.

D. At least one wall receptacle must be installed in the bathroom, adjacent to the basin.

E. For a single-dwelling unit, at least one outlet must be installed outdoors.

F. At least one outlet must be installed in each basement and attached garage, and in each detached garage with electric power.

G. Outlets in other sections of the home for special appliances, such as laundry equipment, must be located within 6 feet (1829 mm) of the intended location of the appliance.

H. At least one outlet must be installed for the laundry.

I. Lighting outlets must be installed as followed:

1. At least one wall switch-controlled lighting outlet must be installed in every habitable room, in hallways, stairways, at all exterior exits, attached garages and in detached garages with electric power.

   a. In habitable rooms, other than kitchens or bathrooms, one or more receptacles controlled by a wall switch is permitted in lieu of lighting outlets.

   b. In hallways, stairways and at outdoor entrances, remote, central or automatic control of lighting is permitted.

2. At least one outlet must be installed in the attic, under-floor space, utility room and basement when used for storage or containing equipment requiring servicing.

J. All 120-volt, single-phase, 15- and 20-ampere outlets installed outdoors and in bathrooms must have ground-fault circuit interrupter protection when installed in the following locations: per article 210-12 of the 2001 CEC, effective January 1, 2002.

1. Bathrooms.

2. Within 6 feet (1829 mm) of a kitchen sink.

3. Outdoors, garages, crawl spaces and unfinished basements.

XVIII. GRADING AND STORM WATER QUALITY

As part of the processing requirements for a single-dwelling unit residence development, a grading permit may be required, along with reports that analyze and propose mitigating measures for a development's impact on storm water quality, both during construction and after construction activities have been completed.

Grading permits may be a requirement for the development of a single-dwelling unit residence if certain findings can be made based upon the ordinances set forth within the City of San Diego Municipal Code. The following are examples of these findings;

1. Excavation or fill that results in a slope with a gradient of 25 percent or greater (4 horizontal feet to 1 vertical foot) and for which the depth or height at any point is more than 5 feet measured vertically at the face of the slope from the top of the slope to the bottom of the slope;

2. Excavation or fill for which the depth or height at any point from the lowest grade to the highest grade at any time during the proposed grading is more than 5 feet measured vertically;

3. Grading that creates manufactured slopes at a gradient exceeding that specified in Section 142.0133;

4. Grading for which the graded area is more than 1 acre. This would also qualify the project as being subject to requirements of the California Regional Water Quality Control Board for General Construction Activity, Storm Water Pollution Prevention Plan (SWPPP).

5. Grading that adversely affects the existing drainage pattern by altering the drainage pattern, concentrating runoff, increasing the quantity of runoff, or increasing the velocity of runoff to adjacent properties;

As a component of any grading permit and even some building permits, storm water quality must be considered as it relates to the impact of the development upon storm water quality within waters of the state, both during and after construction.

The level of consideration is dictated by form DS-560, Storm Water Requirements Applicablility Checklist. Projects that are determined to qualify as "Priority", based upon the correct application of this form, are considered to warrant the highest level of consideration.

Any Project that proposes to disturb soil is required by the State of California Regional Water Quality Control Board, through a permit issued by the State to the City of San Diego as a co-permittee, as promulgated in the latest edition of the City of San Diego Municipal Code, Land Development Manual-Storm Water Standards, to mitigate for impacts to storm water quality.

If the disturbed area is greater than or equal to one acre, or if the project is part of a development that will disturb an area greater than one acre, a Storm Water Pollution Prevention Plan (SWPPP) must be prepared after a Notice of Intent (NOI) has been filed with the State Water Resource Control Board (SWRCB). Storm water quality reports can be costly so they should be considered early when evaluating the viability of any project.